

REMARKS

The Examiner is thanked for the performance of a thorough search. Claims 1-15, 17, 25 and 27 were previously canceled. Claims 16, 18-24, 26, and 28-39 are pending in the application. All issues raised in the Office Action mailed October 14, 2009 are addressed hereinafter.

I. ISSUES RELATING TO ALLEGED PRIOR ART

A. CLAIMS 16, 18-24, 26 AND 28-39-- 35 USC § 103

Claims 16, 18-24, 26 and 28-39 are rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Haggerty et al., U.S. Patent No. 6,331,983 B1 (“Haggerty”) in view of Li et al., U.S. Patent No. 6,631,420 (“Li”). The rejection is respectfully traversed.

CLAIM 16

Present Claim 16 recites:

16. An apparatus for processing data at a node in a data network, wherein the data network connects a plurality of nodes and at least a portion of the plurality of the nodes form a multicast group, the apparatus comprising:
- a data store that stores, **in a database**, a plurality of entries associated with the multicast group, **wherein each entry comprises data to be transmitted from a rendezvous point of the multicast group to members of the multicast group**; and
 - one or more processors comprising one or more sequences of instructions which when executed by one or more processors, cause the one or more processors to perform:
 - logic that disseminates the plurality of entries to members of the multicast group;
 - logic that receives, from a node that is not a member of the multicast group, a request to run a query **against the entries of the data store**, wherein the query specifies matching criteria;
 - logic that runs the query against the entries in the data store;
 - logic that indicates that the apparatus has been designated as the rendezvous node in the multicast group, wherein designation as the rendezvous node indicates that the apparatus is to disseminate the plurality of entries to members of the multicast group; and
 - logic that disseminates one or more entries that satisfy the matching criteria to the node that is not a member of the multicast group.

Support for the amendment is provided at least on page 4 (ll. 7-9), page 7 (ll. 19-32), page 8 (ll. 28-31) and FIG. 4 of the applicants' specification.

Among other features, as amended, Claim 16 recites "a data store that stores, in a database, a plurality of entries associated with the multicast group, wherein each entry comprises data to be transmitted from a rendezvous point of multicast group to members of the multicast group."

It is well founded that to establish a *prima facie* case of obviousness under 35 U.S.C. §103(a), the references cited and relied upon must teach or suggest all the claim limitations. In addition, a sufficient factual basis to support the obviousness rejection must be proffered. *In re Freed*, 165 USPQ 570 (CCPA 1970); *In re Warner*, 154 USPQ 173 (CCPA 1967); *In re Lunsford*, 148 USPQ 721 (CCPA 1966). With respect to the present application, it is respectfully submitted that Haggerty and Li, individually or in combination, do not describe or suggest all the limitations of Claim 16. It is further submitted that a sufficient factual basis has not been proffered in the Office Action to support the rejection of Claim 16 under 35 U.S.C. §103(a).

The Office Action alleges that Haggerty describes "a data store that stores a plurality of entries associated with the multicast group," recited in Claim 16, in Haggerty's abstract, column 7 (ll. 53-59) and column 8 (ll. 12-16). (Office Action: page 3) This is incorrect.

In the excerpts cited by the Office Action, Haggerty describes a multicast packet, a map message and a connection table, none of which is the data store that **stores, in a database**, a plurality of entries... to be transmitted from a rendezvous point to members," as recited in Claim 16. Haggerty's multicast message is received by a source switch from a source host and is sent by the source switch to other switches. (Haggerty: Col. 7, ll. 36-42) However, Haggerty's multicast message is never stored in **a database**, as recited in Claim 16. Nowhere does Haggerty describe that the multicast packets are stored in **a database**, as recited in Claim 16. In fact,

nowhere does Haggerty describe **a database** for storing a “plurality of entries... wherein each entry comprises data to be transmitted to ... members,” as recited in Claim 16.

Haggerty’s map message is a request to join a multicast group that is sent by a non-member to a source switch. (Haggerty: Col. 7, ll. 45-50) Haggerty’s map message comprises an address of the requested group, an address of the source host, and a predetermined path between the requestor and the source switch. (Haggerty: Col. 7, ll. 50-52) However, the request is not the entry that is stored in **a database**, as recited in Claim 16. Further, Haggerty’s map message does not comprise “data to be transmitted from a rendezvous point of multicast group to members of the multicast group,” as recited in Claim 16. Moreover, Haggerty’s map message is sent from a non-member to a source switch, **not from a rendezvous point of the multicast group to to the members** of the multicast group, as recited in Claim 16.

Haggerty’s connection table contains paths on which future multicast packets are sent from a source switch to the multicast group members. (Haggerty: Col. 7, ll. 57-59) The entries in Haggerty’s connection table indicate paths from the source to the members of the multicast group (Haggerty: Col. 8, ll. 12-14). However, Haggerty’s connection table does not contain entries that comprise “data to be transmitted from the source of multicast information to members of the multicast group,” as recited in Claim 16. Further, the entries in Haggerty’s connection table are not “transmitted from a rendezvous point of the multicast group to members of the multicast group,” as recited in Claim 16.

For the above reasons, Haggerty fails to describe the data store recited in Claim 16.

The Office Action alleges that Haggerty describes “logic that receives, from a node that is not a member of the multicast group, a request to run a query against the entries the data store,” recited in Claim 16, in Haggerty’s column 14 (ll. 29-36) and column 8 (ll. 17-26, 57-67) (Office Action: page 3) This is incorrect.

Queries in Haggerty are requests that are run against a connection table, but they are not run against the entries, in the data store, that are to be transmitted from a rendezvous point of the multicast group to members of the multicast group, as recited in Claim 16. Queries described in Haggerty are requests, sent by the hosts, to join a multicast group. (Haggerty: Col. 14, ll. 29-36) Haggerty's queries are run against the connection table, which is stored at the router and which contains connection entries. The connection entries identify "outports," on the router, that are utilized by the members of the particular multicast group. (Haggerty: Col. 8, ll. 56-68) A non-member that wants to join a particular group may send an IGMP request to the router. The router processes the request, composes a "join group messages," and sends the message to other switches toward the source of the particular group. (Haggerty: Col. 8, ll. 63-68) Eventually, the router receives an acknowledgment from the source of the particular group that the host was added to the group. (Haggerty: Col. 7, ll. 60-61) Haggerty's requests are run against connection tables. However, neither the request nor the acknowledgment is run against the data store that comprises the entries to be transmitted from the rendezvous point to the members, as recited in Claim 16. Haggerty's requests and acknowledgments are not run against the data store that comprises actual multicast messages "to be transmitted to the members of the multicast group," as recited in Claim 16.

For the above reasons, Haggerty fails to describe a request to run a query against the entries in the data store..., as recited in Claim 16.

The Office Action alleges that Li describes the "logic that disseminates one or more entries that satisfy the matching criteria to the node that is **not a member** of the multicast group," recited in Claim 16, in Li's abstract, column 5 (ll. 3-10) and column 1 (ll. 44-51). (Office Action: page 4) This is incorrect.

In column 5 (ll. 3-10) and column 1 (ll. 44-51), Li describes PIM Join/Prune messages. Li's PIM Join/Prune message is a request to revive a connection between a rebooted router and a multicast group, not an entry that comprises data to be transmitted from a rendezvous point of the multicast group to the members of the multicast group, as recited in Claim 16. In the abstract and columns 5 and 1, Li describes a PIM Join/Prune message that is sent from a rebooted router that wants to re-join the multicast group on behalf of its clients that were members of the group but that lost their connection with the group because the router was rebooted. However, Li's PIM Join/Prune messages are requests to join the group, not the entries that are transmitted from a rendezvous point of the multicast group to members of the multicast group, as recited in Claim 16.

Furthermore, Li's PIM messages are sent from the rebooted router to neighboring routers along paths toward to rendezvous point (RP), not "from a rendezvous point of the multicast group to members of the multicast group," as recited in Claim 16. Li's PIM messages are sent toward the multicast group RP router (Li: Col. 5, ll. 4-5), not "from a rendezvous point of the multicast group," as recited in Claim 16. Moreover, Li's PIM messages are sent from a switch that was rebooted, and thus lost connectivity with the rendezvous point of the multicast group, not from the rendezvous point, as recited in Claim 16.

In addition, Li's PIM message is sent to the rendezvous point, which is a member of the multicast group, not "to the node that is not a member of multicast group," as recited in Claim 16.

For the above reasons, Li fails to describe "logic to disseminate one or more entries that satisfy the matching criteria to the node that is not a member of the multicast group," as recited in Claim 16.

Therefore, Claim 16 recites one or more features that are not described in Haggerty and Li, individually or in combination. Hence, Claim 16 is patentable over Haggerty and Li, individually or in combination.

Reconsideration and withdrawal of the rejection is respectfully requested.

CLAIMS 26 AND 36

Independent claims 26 and 36 recite features similar to those recited in Claim 16. Therefore, Claims 26 and 36 are patentable over Haggerty in view of Li for the same reasons as Claim 16.

Reconsideration and withdrawal of the rejection is respectfully requested.

B. DEPENDENT CLAIMS

The pending claims not discussed so far are dependent claims that depend directly or indirectly on a claim that is discussed above. Because each of the dependent claims includes the limitations of the claim upon which it depends, the dependent claims are patentable for at least those reasons given above for the claim upon which it depends. In addition, the dependent claims introduce additional limitations that independently render them patentable. However, due to the fundamental difference already identified, a separate discussion of those limitations is not included.

Reconsideration and withdrawal of the rejection is respectfully requested.

II. CONCLUSION

For the reasons set forth above, it is respectfully submitted that all of the pending claims are now in condition for allowance. Therefore, the issuance of a formal Notice of Allowance is believed next in order, and that action is most earnestly solicited.

The Examiner is respectfully requested to contact the undersigned by telephone if it is believed that such contact would further the examination of the present application.

Please charge any shortages or credit any overages to Deposit Account No. 50-1302.

Respectfully submitted,

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